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# Growing WILD

Winter 1999

Utah's Project WILD Newsletter

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## Utah's Leapin' Lagomorphs!

**L**agomorph? What's a lagomorph? Chances are you are quite familiar with these Utah animals, even if you don't recognize the name right off. Here's a hint: What Utah mammal has long ears, long legs, and hops?

That's right! Lagomorphs are members of the mammalian order *Lagomorpha*, which includes rabbits, hares and pikas. Scientists currently recognize two families of living lagomorphs: *Leporidae*, which includes the rabbits and the hares, and *Ochotonidae*, the family of the pikas. All lagomorphs are herbivores, having well developed incisors that are particularly suited to the task of cutting plant stems and removing tree bark. These teeth continue to grow throughout life, offsetting the abrasive effects associated with a herbivorous lifestyle. One can easily identify the skull of a lagomorph in that it has two pairs of upper incisors, the smaller second pair lying just behind the larger first pair.

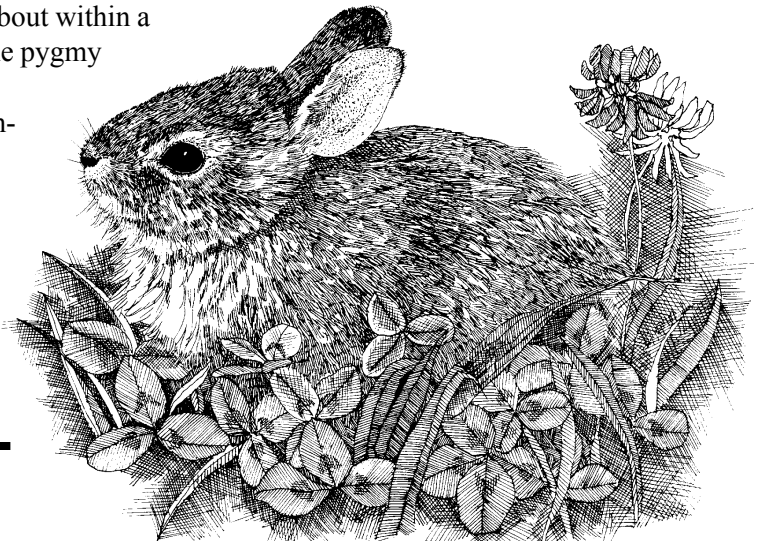
We are told that these common inhabitants of forest, grassland, desert, marsh, tundra and brushland are the descendents of ancestors that evolved in Asia sometime during the Paleocene Epoch, some 55 million years ago. By the end of the Eocene, about 37 million years ago, rabbits and hares had become established in North America, with the pikas coming sometime during the Pleistocene (about 1 million years ago). Lagomorphs most likely made their way to North America via the Bering land bridge that once formed a migrational highway of sorts between northeastern Siberia and Alaska. As they arrived, they were quick to take advantage of the available habitats, and are now considered to be native to all major land masses except Australia.

Lagomorphs are considered to be of great ecologic and economic importance throughout their range. Wherever they are found, lagomorphs are a dietary staple of many predators, including wolves, foxes, bobcats, cougars, weasels, hawks, eagles and owls, forming a critical link in the natural food chain of many areas. Man is also a major predator of wild rabbits and hares. Since prehistoric times, when rabbits and hares were depicted as prized game animals in the paintings on cave walls, civilizations throughout the world have utilized the highly nutritious meat of lagomorphs. Sailors of the past often took rabbits on their long ocean voyages as a source of fresh protein. Easily domesticated and requiring very little space, rabbits and hares have since become important as pets, in medical laboratories, and as sources of domestic meat. In addition to utilizing the delicately flavored meat, modern man makes many uses of the hides and hair. Rabbit fur, sometimes called *lapin*, is used extensively in the fur industry, and is a major source of fiber for the manufacture of felt.

Utah is home to seven distinct species of lagomorphs, including three hares. As is typical of the hares, the white-tailed jackrabbit, the black-tailed jackrabbit and the snowshoe hare give birth to young that are fully furred, have their eyes open and are capable of hopping about within a few minutes of birth. The desert and Nuttall's cottontail, and the pygmy rabbit, Utah's three rabbit species, give birth to young that are hairless, blind and in need of parental care. This care is accomplished in a nest that the female builds in a shallow burrow and lines with fur from her own body. Likewise, Utah's pikas are born blind and nearly hairless in litters of two to six, and are cared for in a nest by the female.

We hope you enjoy this issue of *Growing WILD* as we learn more about the unique adaptations that define Utah's Leapin' Lagomorphs!

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# *Lovable Lagomorphs!*

## **Cottontail Rabbits: *Sylvilagus* sp.**

Cottontail rabbits are found in more places on our continent than any other Utah animal. Some seventy species and subspecies inhabit almost every corner of America, and almost everyone is familiar with this small, furry grayish-brown animal with long ears, large brown eyes, oversized hind feet and powerful haunches, tipped on the back end with a small white fluffy tail that gives it its name.

Two distinct species of cottontail rabbits are found in Utah. The desert, or Audubon's cottontail, *Sylvilagus audubonii*, is found throughout the arid desert regions of the state including the southern portion of the Great Basin south through the Mojave Desert and throughout the Colorado Plateau of southeastern Utah north into the Uinta Basin. The mountain, or Nuttall's cottontail, *Sylvilagus nuttallii*, inhabits the mountainous regions of the state from northern Utah south through the central mountain ranges, and also in the southeastern corner of the state. Populations of both cottontail species overlap in many areas, and distinguishing between them can be difficult. In comparison to the desert cottontail, the mountain cottontail has a more robust body, shorter ears that are more furred inside and feet covered with thick long hair. The mountain cottontail also has a distinguishing thin black line along the margins of its ears. Also, desert cottontails are paler in color and wear an orange-brown throat patch.

Cottontails live in a wide range of habitats but only in areas where there is dense brush and shrubs or other ground cover near feeding and resting areas that provide protection from the elements and predators. Suitable escape cover is especially important for cottontails, which are abundant prey for almost every bird and animal that eats flesh such as hawks, owls, coyotes, foxes, bobcats and people.

Within its home range of about an acre, a cottontail knows every trail, burrow and cranny of cover. Using its large ears and outwardly-directed eyes to sense potential danger, it ventures out cautiously at dusk or dawn to feed on almost every plant that grows above ground. In summer, it feasts on leaves, grasses, shoots and fruits, and in winter upon buds, twigs and bark.

Upon sensing danger, the cottontail makes a mad dash towards cover, leaping 15 feet at a lick, dodging, twisting and zigzagging right and left for up to a half a mile in one spurt. Sometimes the cottontail escapes. At other times, the predator captures a meal. Fortunately, cottontails, notorious for their extreme fecundity, survive as a species.

***“From furlined cradle  
to bloody grave,  
the cottontail is beset  
by adversity.”***

**- Victor Cahalane**

Female cottontails, called does, can bear their first litter of four to five young as early as six months of age. Also, since they can mate again the same day as a litter is born, they are able to have about five litters in one season. Cottontails are true “rabbits,” meaning they bear altricial young which are blind, deaf and without fur at birth.

The nest of a cottontail consists of a cup-like, hollowed out depression about the size of a dinner plate, lined with grasses and other vegetation plus fur plucked by the mother from her breast and belly. After the young, called kittens, are born, the doe nurses them and then leaves after covering the nest with a warm “blanket” of grasses that keep the nest well hidden. She then watches from a safe distance and returns three times each night to feed her young.

The baby cottontails grow fast and their eyes open within a week. By 15 days, they are furry and strong enough to leave the nest. After about five months, they have reached their full-grown size of 10 to 20 inches in length and two pounds in weight.



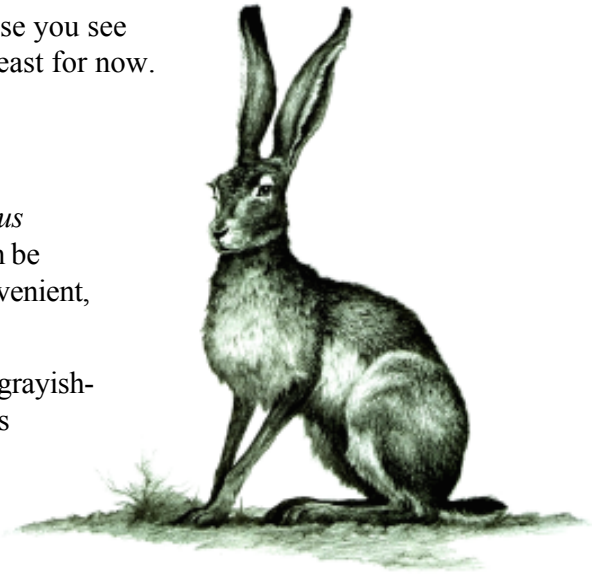
*Cottontail Rabbit*

Life as a young cottontail is precarious and biologists estimate that less than one in 20 survive though winter and escape predators within their first year. Those you see grazing in the dim light of dawn or dusk are the survivors though... at least for now.

## Jackrabbits: *Lepus* sp.

Utah is home to two species of jackrabbits, the black-tailed jackrabbit, *Lepus californicus*, and the white-tailed jackrabbit, *Lepus townsendii*. They can be distinguished, as their names suggest, by the color of their tails. This is convenient, since jackrabbits are most often seen from behind as they race away.

Both of Utah's jackrabbit species are similar in appearance, having grizzled, grayish-buff fur, especially long, mule-like ears that are longer than their heads, ears tipped in black, and golden yellow eyes with dark black pupils. Besides the difference in the color of the top part of their tails, they also differ in size. The more slender black-tailed jackrabbit weighs between four and eight pounds whereas the weight of the white-tailed jackrabbit ranges between six and nine pounds. Also, in winter, the coat of the white-tailed jackrabbit turns almost pure white or pale gray, except for the tips of the ears!



*Black-tailed Jackrabbit*

The black-tailed jackrabbit, the most common jackrabbit in the western United States, ranges throughout Utah, except in the northeastern corner. They occupy a range of arid habitats including sagebrush regions of the Great Basin, pinyon-juniper woodland areas, the Mojave Desert shrub community in the southwestern corner of the state and cultivated agricultural areas. The white-tailed jackrabbit inhabits the mountainous areas usually above 5,000 feet to within the alpine zone.

Jackrabbits, in general, prefer open, grassy areas with clumps of shrubs or weeds that provide shelter and protection from predators. They do not dig or use burrows, but spend the day resting in shallow depressions called "forms" that they scrape in the earth. Jackrabbits use their keen senses of hearing, sight and smell to keep alert to approaching danger. If a jackrabbit is surprised by a sudden intruder, it may "freeze," pressing its body to the ground with ears lowered, becoming almost invisible. If approached more closely, it will most likely take off running at speeds between 20 and 25 miles per hour and jump upwards every four or five bounds to locate the enemy. Pressed harder, as by a hungry coyote, it will turn on the speed to 40 or more miles per hour and run a zigzag course to confuse the pursuer. Both types of jackrabbits also possess the ability to escape predators by swimming.

*White-tailed  
Jackrabbit*



Jackrabbits are not actually rabbits, but are hares. Technically speaking, the young of hares are precocious, meaning they are born fully haired, with open eyes and able to hop around within minutes after birth. On average, female jackrabbits produce between two and five young, called leverets, per litter. The leverets weigh about 4 ounces each. Soon after they are born, the female scatters them among a few separate fur-lined hollows on the ground to lessen the chance that a predator will harm the whole litter. She nurses them at night and within a week they are weaned and able to eat vegetation.

Although not as prolific as cottontails, jackrabbit populations can soar. When populations were high, some Native Americans would herd great numbers of them into corralled areas to capture them for food. Some ancient cultures of the Southwest and Great Basin also used jackrabbit fur for blankets and clothing. Today, jackrabbits are often hunted for food and sport.

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## Pygmy Rabbit: *Sylvilagus idahoensis*

The pygmy rabbit is Utah's smallest rabbit, measuring about 11 inches, one-half the size of a cottontail. It resembles a cottontail in its features and coloration except that the underside of its tail is buff instead of white, and the nape of the neck and front of the legs are an attractive cinnamon color. It also has whitish spots at the sides of the nostrils.



*Pygmy Rabbit*

The range of the pygmy rabbit is comparatively limited and is restricted to the sagebrush ecosystem of the Great Basin. In Utah, populations are greatest near the Idaho border. Their numbers decrease southward to the northern reaches of Washington County. Within their range, they are found specifically in the tall, dense stands of big sagebrush that dominate alluvial fans in the region, usually at elevations between 4,500 and 7,000 feet.

Many scientists group this rabbit in the genus *Sylvilagus*, as above, whereas others believe the species is different enough that it should be placed in its own separate, monotypic genus, *Brachylagus*. One of the behaviors that makes this species different is that it digs and uses extensive burrow systems. Burrows usually have four to five entrances and are located at the base of sagebrush plants. Burrow entrances are only four or so inches in diameter but open more once past ground level into tunnels and chambers up to three feet deep.

Pygmy rabbits eat sagebrush almost exclusively. Because of their strong sage flavor, they are not desirable to eat. They are also a protected species and cannot be hunted. They are weak jumpers and tend to scamper about in a low gait instead of hopping along. Weasles, which readily enter their burrows, are the principal predator of pygmy rabbits. Other predators include coyotes, foxes, harriers, bobcats and badgers.

## Snowshoe Hare: *Lepus americanus*

"In summer its brown; in winter its white... a perfect arrangement for staying out of sight!" Called sometimes, the varying hare, because of this change, it is the especially large, thickly-furred feet of this species that gives it its other name, the snowshoe hare.

Snowshoe hares are most common in the northern reaches of our continent, ranging throughout Canada and Alaska. In the western United States, they range down into Utah, through Colorado to northern New Mexico and into northern California. Within Utah, they are a resident of Douglas fir, lodgepole pine and aspen forests of the subalpine zone found at higher elevations within the mountains of our state. They prefer areas with dense, shrubby understories that provide food and protection from predators. Burned areas with new woody growth are especially attractive to them, as are thick stands of alder and willow within riparian areas.

Snowshoe hares, at about 17 inches in length when full grown, are midway in size between cottontails and jackrabbits. They are more closely related to jackrabbits though, which are also hares and are in the same genus, *Lepus*. Snowshoe hares can be distinguished from white-tailed jackrabbits, which also turn white in winter, by their smaller size and shorter tails and ears. And with hind feet up to six inches long, their tracks in fresh snow are unmistakable.

The hind feet of snowshoe hares, which make these enormous tracks have four large, widely positioned toes and are covered, on the bottom, with coarse hairs that help support the hare in deep snow and give it traction on icy crusts. This comes in handy to a snowshoe hare being pursued by one of its many predators.



*Snowshoe Hare*



Snowshoe hares, as with other *Leporids*, are an important prey species for many animals. However, with snowshoe hares, this interdependency can be very tight, as evidenced by the fact that certain predators such as lynx and bobcats exhibit population cycles that follow those of snowshoe hares. In Utah, where bobcats prey heavily on snowshoe hares, these cycles can be seen. Fluctuations in the hare population set the limit on the number of bobcats. When there are fewer hares, there are fewer bobcats, and when there are more hares, there are more bobcats. Low availability of winter food associated with higher hare populations is thought to trigger hare population declines. After food sources have had a chance to recover, hare populations again increase.

Next time you're out snowshoeing in the forest, watch closely for snowshoe hares. Being skilled at hiding though, you might only see their tracks!

### **Pika: *Ochotona princeps***

A sharp, whistle-like "jeep" sound piercing the alpine air may be your first clue that you're near a colony of pikas. With dense fur as gray as the rocks they inhabit and small, eight inch, seven ounce rounded and nearly tailless bodies, pikas can be difficult to see. Once spotted though, they can be quite amusing to watch.

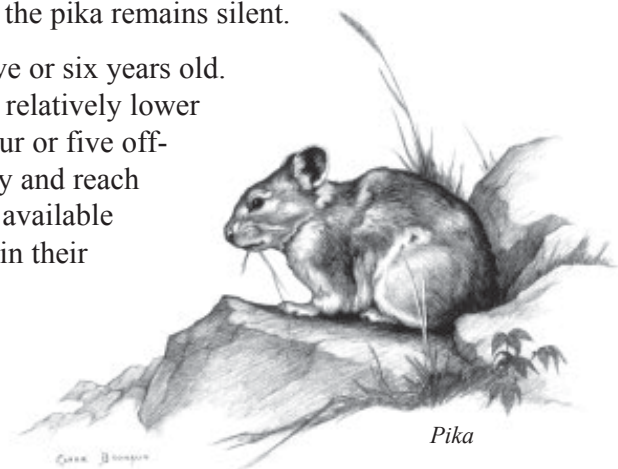
Pikas, known also as "rock rabbits," make their home among the rocky talus slopes found at high elevations above timberline. They prefer areas with a meadow or patches of vegetation nearby. They are active during the day, and spend most of the short high country summer hours gathering food which they dry and store for winter. This behavior is called "haymaking."

Each pika occupies a territory of about one-half acre near the edge of the talus slope. From here, it scampers out to the meadow to clip and gather vegetation. With its mouth full of plants, the pika then returns to its hay pile located at the center of its territory, under an overhanging rocky ledge, in a crevice or along the edge of a boulder. A pika may make several hay piles, but usually focuses its efforts on building one large pile about two feet high and two feet in diameter. Hay piles are located in spots partially exposed to sunlight allowing the layers to cure.

Since pikas do not hibernate, but live off their dried stores of food during the winter, a pika's survival is directly dependent on the success of their haymaking season. Because of this, pikas are quite territorial, especially towards the end of summer, and readily defend their hay piles from neighboring pikas that attempt to make raids on their stores. To avoid direct conflict, they mark the boundaries of their territories with scent from glands on their cheeks and utter their sharp calls to ward off any potential trespassers. If energetic calling doesn't work, an attack may ensue.

When not foraging, a pika will rest on a safe rocky perch near an escape route and keep an eye out for predators. The shrill bark it utters to defend its territory is also used as a warning call to announce the presence of danger to other members of the colony. Alarm calls will be emitted when danger is sensed in most cases, but not always. The exception is when a weasel is seen. Weasels are capable of following a pika into its rocky den, and so, to avoid attracting attention to itself, the pika remains silent.

Such a "street smart" and successful haymaking pika can live to be five or six years old. This high rate of survival compared to other lagomorphs, allows for a relatively lower rate of reproduction. In one year, a female pika will typically have four or five offspring between two litters. The young pikas grow surprisingly quickly and reach adult size after only 40 to 50 days. By early autumn, they disperse to available vacant habitat. And then through the winter, they move about secure in their rocky fortresses roofed over with snow.



Pika

**Objective:** Students will gain a better understanding of survival strategies employed by cottontail rabbits to avoid being eaten.

**Method:** Students play an exciting board game of chase and escape involving various predators and cottontail rabbits, a prey species.

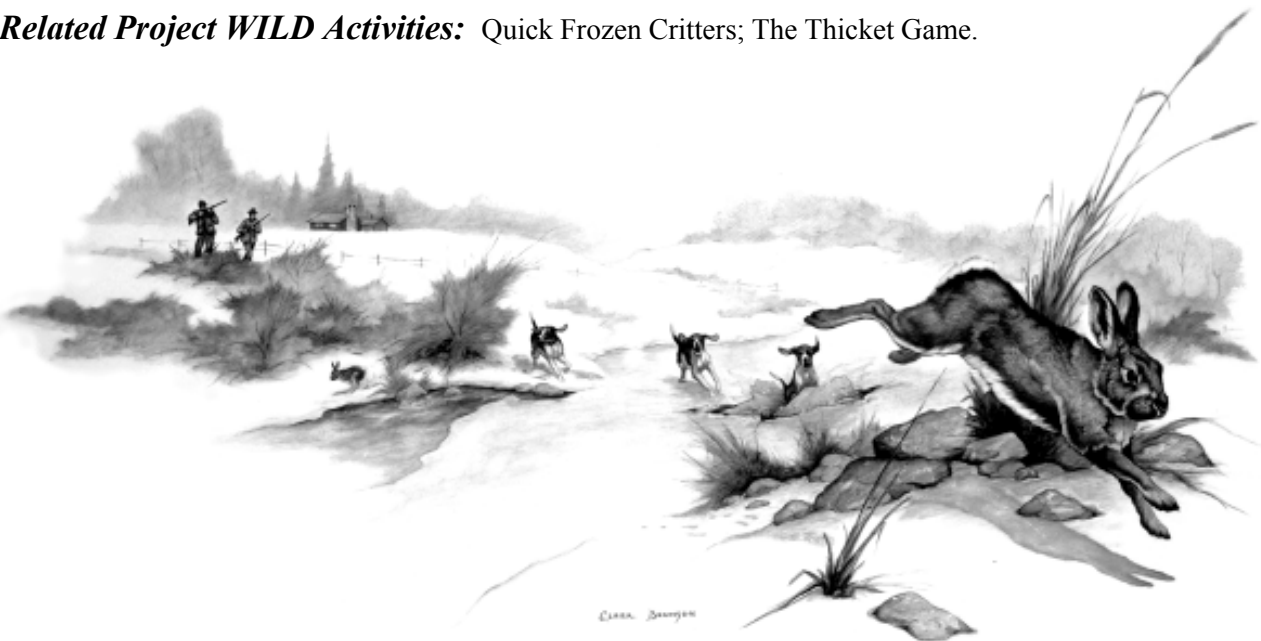
**Background:** See *Nature's Call* included in this issue of *Growing WILD* (middle section of newsletter).

**Materials:** One copy of game board (see *Nature's Call*) for each 3-4 students; one die for each 3-4 students, one set of "Predator Alert!" cards (copy and cut out cards on next page) for each 3-4 students; one cottontail rabbit game piece per student (perhaps use small beans or pebbles painted with ears, eyes and a cotton tail).

**Procedure:** Distribute game boards, dice and "Predator Alert!" cards (place cards face-down in a stack). Also, have students get out their cottontail rabbit game pieces. Explain the rules (below) and play the game.

- a) Students place their cottontail rabbit game pieces on the "Start" space.
- b) Students take turns rolling the die and advancing the number of spaces indicated by their roll.
- c) If a student lands on a "Predator Alert!" space, they must pick up the top card from the pile, read it aloud and follow the instructions given.
- d) If a student lands on a blank space, nothing happens. If they land on a space with written instructions they must do what is indicated.
- e) When "cottontails" approach the last part of the game board, they must roll the exact number on the die to reach the last space indicating that they survived their first year of life as a cottontail rabbit.
- f) The goal of the game is to make it to the last space. The student that makes it there first is the winner of the game. Although this may seem somewhat competitive, the lesson to be learned by those that do not make it is that life for a cottontail rabbit is quite precarious and that surviving their first year of life is not easy. In fact, many cottontails do become prey for predators. The species as a whole is maintained by having a very high reproductive rate.

**Related Project WILD Activities:** Quick Frozen Critters; The Thicket Game.



<p>You have been spotted by a coyote. It chases you at full speed but you dash and zig-zag across the field, making it to cover. Move to the next "Safe Zone."</p>	<p>You are being stalked by a weasel. It sneaks up slowly from behind and bites you in the neck. You did not make it this time. Return to "Start."</p>	<p>A kit fox comes across your path. You see it before it sees you and "freeze" in place. The fox doesn't even see you and wanders off. Stay where you are.</p>
<p>A great horned owl swoops down from above before you can make a run for it. It grasps you with its sharp talons and carries you off to its nest. You become dinner for its young. Go back to "Start."</p>	<p>You see a red-tailed hawk soaring in circles above your head. You scamper quickly to find shelter to avoid detection and get there with time to spare. Move to the next "Safe Zone."</p>	<p>You are nibbling on some plants when all of a sudden you hear something in the grass. A large snake has slithered up to within striking distance. It strikes, but you manage to escape. Move to the next "Safe Zone."</p>
<p>You are resting quietly under a bush. Suddenly, a bobcat jumps from behind a large boulder and pounces upon you. Its sharp claws tear into your flesh. Go back to "Start".</p>	<p>A coyote finds you sleeping alongside a log. You see it approach and run as fast as you can. It runs fast too and manages to capture you. Go back to "Start."</p>	<p>You have been found by a red fox. It attempts to pounce on you but you bound away before it lands. Your speed saves you this time. Move to the next "Safe Zone."</p>
<p>A short-eared owl flying overhead has seen you in the grass below. It swoops down but misses as you dart for cover. Move to the next "Safe Zone."</p>	<p>A mountain lion sniffs your scent. It tracks you down and begins a chase. You are too quick and your white tail confuses the large lion. It wanders off for bigger prey. Stay where you are.</p>	<p>A prairie falcon sights you scampering in the field. It flies directly down to you before you even see it above. Its too late for you to get away. Go back to "Start."</p>
<p>A mother red fox has young to feed. She spots you feeding at dawn and trots towards you. You see her and try to run but you don't manage to find a safe spot. Go back to "Start."</p>	<p>A couple of young boys are out on their first hunting trip in the woods. They have a small game license and can shoot rabbits. One sees you, aims and boom! You didn't even know what hit you. Go back to "Start."</p>	<p>A prowling coyote catches your scent and tracks you down. You make a run for it but this coyote is right on your tail even as you make turns. You dash for a low bush, but get caught on a branch. Go back to "Start."</p>
<p>A young golden eagle sees you below, but you see it too. You run towards safety to get out of sight. Unable to see where you have hidden, the eagle flies off. Move to the next "Safe Zone."</p>	<p>A weasel finds and follows your tracks. You hear it coming and run to safety but it is close behind. You manage to squeeze into a tight spot that even the weasel can't reach. Go to the next "Safe Zone."</p>	<p>A bobcat sees you running among some dry grass. Sensing danger, you stop suddenly. The bobcat is not able to see you because your fur blends in with the grass. It chases another rabbit instead. Stay where you are.</p>

## Resources

### *Hop On Over For These!!*

#### **Limited Edition Fine Art Print : “Dog Valley Cottontail”**

Win a copy of this beautiful, full-color 16" x 20" Limited Edition print by Jim Madsen. Five copies valued at \$10 each will be awarded to the first five persons who correctly answer the trivia question below:

How did the rabbit's foot come to be considered a symbol of good luck?

Please submit **response and source of information in writing** to: Project WILD, PO Box 146301, Salt Lake City, UT



#### **Free Resources: Call Project WILD at: (801) 538-4719**

**Children's Books on Rabbits and Hares** - Bibliography and literature review of books available for teaching about rabbits and hares. Prepared by the Project WILD office.

**Rabbits and Hares: Hands-on Wildlife Activities for Kids** - Set of simple and fun activities for kids to learn more about rabbits and hares.

**Rabbit Legends** - Copies of rabbit legends from a variety of cultures.

**Winter Ecology: Ecological Foundations in the Cold** - Activity Guide produced by the Missouri Botanical Garden.

**New “Kokanee Salmon Poster”:** Colorful, full-sized poster featuring a beautiful art print of the Kokanee Salmon as well as illustrations and information about their interesting life cycle.

**Rivers Run Through It: Discovering the Interior Columbia River Basin** - Wonderful poster and excellent article produced by the Bureau of Land Management.

#### ***New For Check-out:***

**All Things Are Connected** - Twelve minute video featuring the words of Chief Seattle to introduce environmental ethics. Teachers activity guide also included.

**The Great White Bear** - Excellent photography footage and engaging natural history information about the Arctic's most fascinating mammal, the Polar Bear. PBS “Nature” video. 55 minutes.

#### ***Rabbit & Hare Internet Sites:***

Rabbit on the Moon: A Short History of Easter - <http://www.rabbit.org/journal/1/history-of-easter.html>

Hares, Rabbits & Pikas: Links to a series of fact sheets - <http://www.birminghamzoo.com/ao/harerabb.htm>

Complete list of rabbit names in different languages - <http://www.rabbit.org/links/translate.html>



## History

### Lagomorph Legends & Lore

From the Easter Bunny to the rabbit pulled from the top hat of a magician, rabbits and hares have filled a prominent niche in the lives and cultures of many people worldwide.

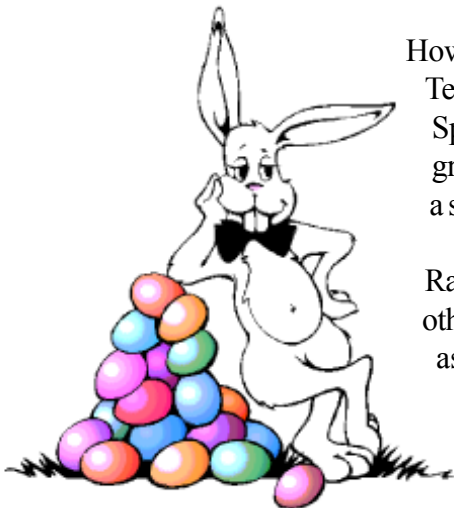


For centuries rabbits and hares have been the featured animals of various myths from around the world. Some South American Indians believed the hare created the universe, and in Egyptian hieroglyphs, the hare stood for existence itself. Rabbits and hares are also linked to several myths about the moon. Hindus believed that a hare lived on the moon and the Chinese represented the moon as a rabbit pounding rice in a mortar. The Japanese believe that a rabbit can be seen on the moon as well. In many Native American legends, rabbits and hares are portrayed as tricksters because of their cleverness and ability to escape capture.

In medieval times, a rabbit, like a black cat, was thought to be a witch in disguise. Such a witch it was thought, could only be killed with a silver bullet. In addition, because of their habit of living in burrows, rabbits were also thought to have connections with the underworld and evil spirits. They were believed to have power over the evil eye, an assertion reinforced by the false (for rabbits) notion that the young are born with their eyes open.

The fecundity of rabbits and hares on the other hand, made them symbolic of fertility and an abundance of life. The Algonquin Indians of North America attributed the Earth's procreative powers to the Great Hare. Buddha commanded that the image of the hare adorn the face of the moon as a symbol of longevity. And images of hares have been found as decoration on Grecian wedding rings. Today, some people carry a rabbit's foot as a token of good luck.

In America, many children are first introduced to rabbits and hares through the myriad stories and fables that are shared from generation to generation. Some of our more famous rabbits include Peter Cottontail, the Velveteen Rabbit, Brer Rabbit, the hare from Aesop's fable, "The Hare and the Tortoise," Bugs Bunny and of course, the Easter Bunny.



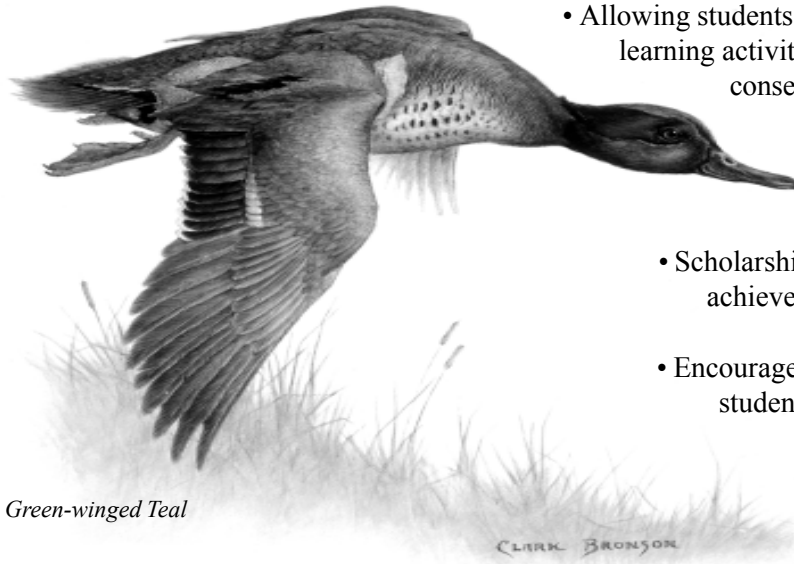
How rabbits became associated with Easter is explained by an old Teutonic legend. According to this legend *Eostre*, the goddess of Spring created the first rabbit from a bird. The rabbit was so grateful that it promised to lay brightly colored eggs each year for a spring festival in her honor.

Rabbits become especially prominent in our lives on Easter. On other days though, they are still present in our subliminal thoughts as evidenced by various phrases we utter now and then. Hare-brained (reckless, foolish, unwise), rabbit ears (indoor TV antennas) and rabbit food (a green salad or raw vegetables) are just a few examples.

## Contest

# *The 1999 Federal Junior Duck Stamp Contest*

Once again, students from Utah's schools will have the opportunity to compete with students from across the country in one of America's premier wildlife conservation competitions. Combining a scientific study of North America's waterfowl with the visual arts gives teachers a tremendous opportunity to apply principles of interdisciplinary education in their classrooms. The benefits of the Junior Duck Stamp program include:



*Green-winged Teal*

- Allowing students to experience creative learning activities centered around conservation;
- Support of conservation education through the arts;
- Scholarships and recognition for student achievers; and
- Encouragement for urban and minority students in outdoor education.

In Utah, the Junior Duck Stamp contest is sponsored jointly by the Ogden Nature Center and Project WILD, and is open to any student in grades K-12. Entries submitted to Project WILD by the March 15, 1999 deadline will be judged against others in the artist's age group (K-3, 4-6, 7-9 and 10-12) with first, second, third place and honorable mention ribbons being awarded in each category. A Best of Show winner will also be selected to compete nationally against Best of Show winners from other states for scholarships and prizes.

Junior Duck Stamps are considered collectables, and are sold through post offices nationwide. Proceeds from the sales of Junior Duck Stamps are used to fund scholarships and prizes for the participants.

For additional information or for entry forms, contact Project WILD at (801) 538-4720 or the Ogden Nature Center at (801) 621-7595.

### Curriculum Guide Available

To assist educators in integrating the Junior Duck Stamp Contest into their current curriculum, the United States Department of the Interior, Fish and Wildlife Service has made available a 13 minute video "Conservation Through The Arts" and a Teacher's Curriculum Guide. The Guide presents conservation education through lessons in the visual, performing, and language arts. Goals, objectives, activities and evaluation techniques are included in the guide, as is a discussion of stamp designing and collecting. For a **free** copy of the guide and/or videotape, contact the U.S. Fish and Wildlife Service, Federal Duck Stamp Office, 1849 C Street, NW Suite 2058, Washington DC 20240.

## Advanced Wildlife Workshop

Join Project WILD-Utah as we explore the management of endangered species found within the borders of our state. Our plans call for us to travel throughout the southern Utah area to meet with state and federal wildlife biologists as we examine current efforts on behalf of the June sucker, the desert tortoise, the Utah prairie dog, the Coral Pink Sand Dunes tiger beetle, and the California condor.

During these fun-filled five days, workshop participants will have the opportunity to:

- explore the numerous and often frustrating facets of managing and protecting endangered wildlife;
- experience first hand the problems faced by Utah's endangered wildlife;
- discuss management strategies with biologists who deal with endangered species on a daily basis;
- observe endangered wildlife in their natural habitats; and
- receive a variety of useful teaching materials for use in their classroom assignments.

We will be camping in various locations as we travel from site to site. Project WILD-Utah will provide transportation leaving Salt Lake City on June 21 and returning to Salt Lake City on June 25, and will provide all meals except dinner on the final night of the trip.

- Workshop fee is \$125. Limit: 20 people. **Cancellations recieved after May 1, 1999 will be subject to forfeiture of the workshop fee.**
- University graduate credit and state inservice/recertification credit will be available.
- Times: Morning of June 21 through the evening of June 25, 1999.
- Questions? Call Fred Hayes at (801) 538-4720.
- Mail registration and fee by **March 15** to Project WILD, Utah Division of Wildlife Resources, 1594 West North Temple, Suite 2110, PO Box 146301, Salt Lake City, Utah 84114-6301.

## Utah's Endangered Species

June 21-25, 1999

Registration Deadline - March 15, 1999



California Condor

**Return form with \$125 check payable to UDWR**

Name \_\_\_\_\_ Phone (h) \_\_\_\_\_ (w) \_\_\_\_\_

Address \_\_\_\_\_

Occupation \_\_\_\_\_

Project WILD Workshop taken when? \_\_\_\_\_ and where? \_\_\_\_\_

# Project WILD



*Utah Division of Wildlife Resources*  
*1594 West North Temple, Suite 2110*  
*PO Box 146301*  
*Salt Lake City, Utah 84114-6301*

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*Growing WILD* is written by Fred Hayes and Diana Vos. Edited by Vicki Unander.  
Illustrators: Clark Bronson and Shelece Jorgenson, plus additional clip-art selections.



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## 1999 Rainforest Workshop Scholarship

Call (800) 669-6806 or email [fgatz@earthlink.net](mailto:fgatz@earthlink.net) by March 1, 1999 to enter a \$1,000 scholarship drawing toward a summer workshop in the rainforest to be held July 9-17, 1999. Total cost for the workshop is \$2,250. Rainforest workshops engage teachers in research with ornithologists, marine biologists, canopy researchers, geographers and biodiversity experts including author/illustrator Lynne Cherry (The Great Kapok Tree) and award winning photographer Gary Braasch. Graduate credit is available.

Have your students done something to make the environment a better place? Compete for the President's Environmental Youth Award. For information or an application, contact:

Fran Wiscam  
US EPA Mail Code 80C  
999 18th Street  
Denver, CO 80202-2466  
Telephone: (303) 312-6613